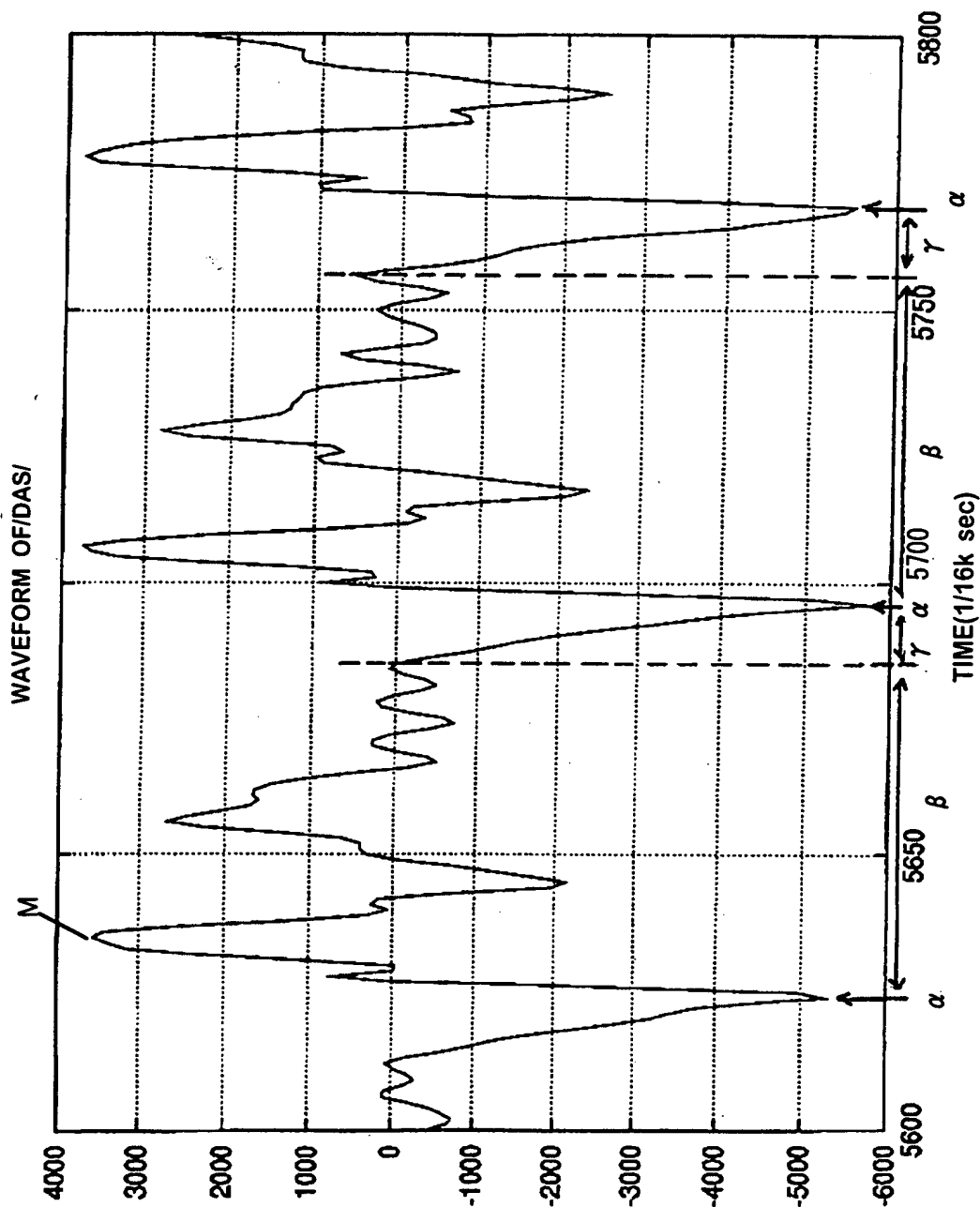


FIG.1



00400T "44582960

FIG.2

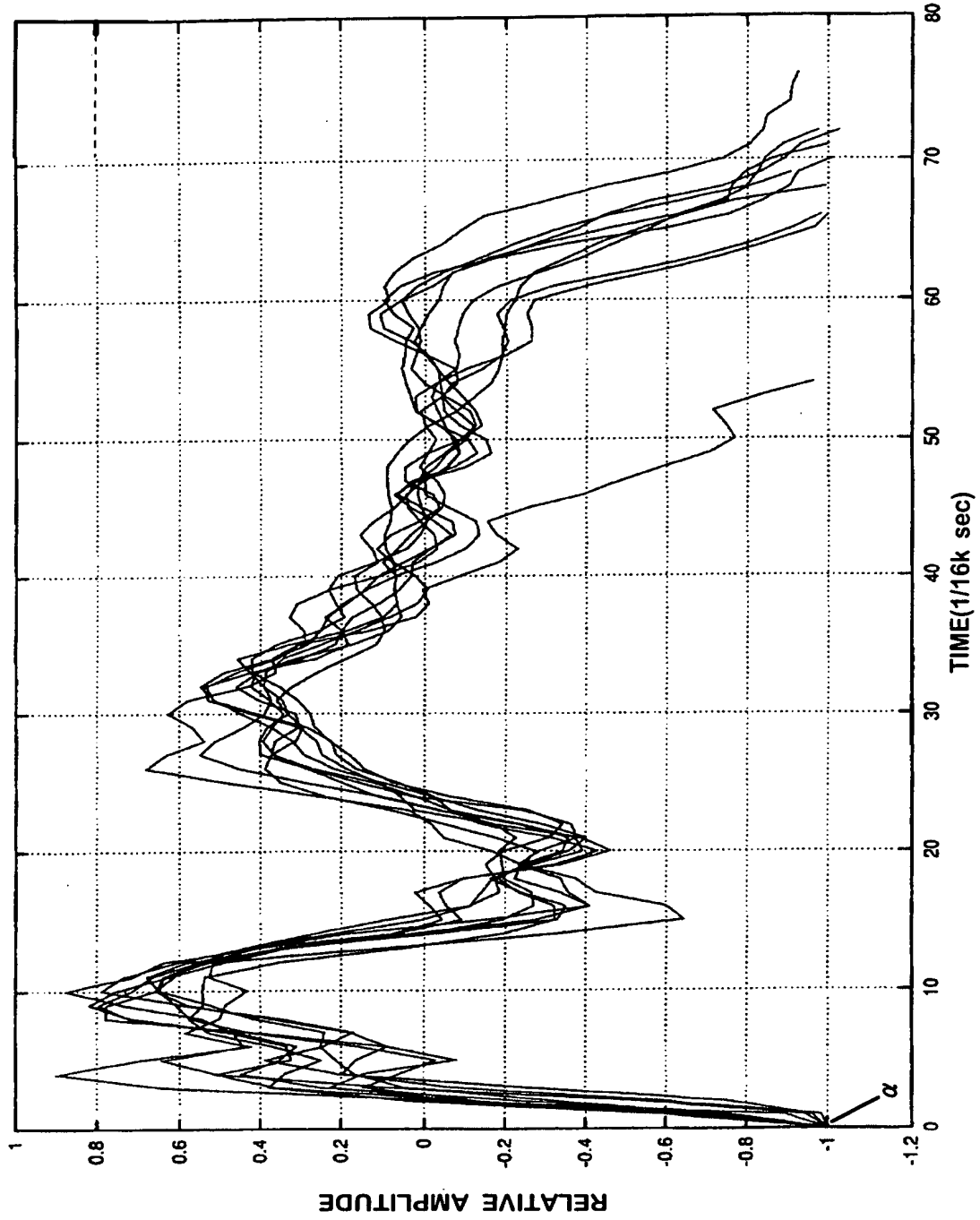


FIG.3

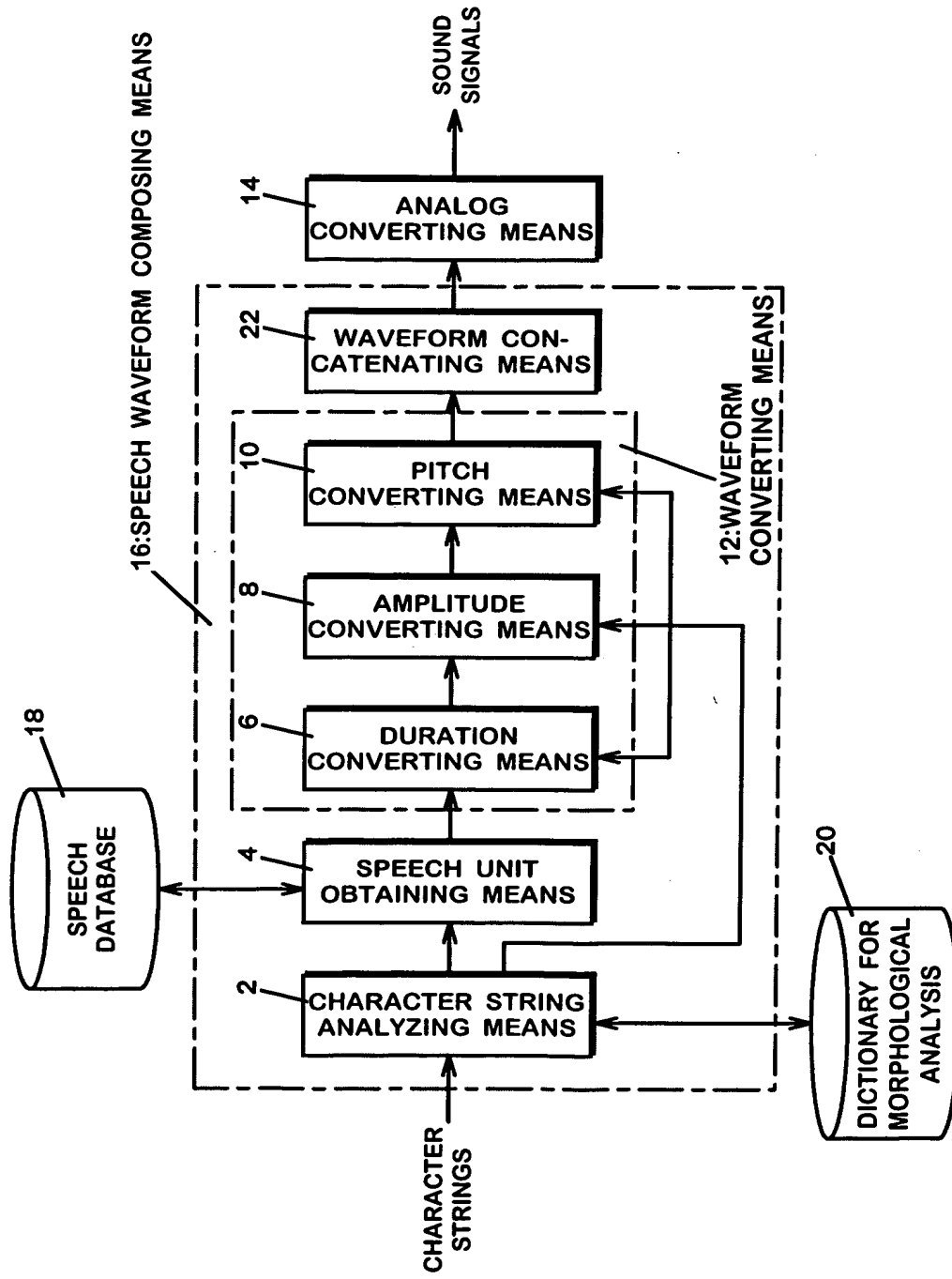


FIG.4

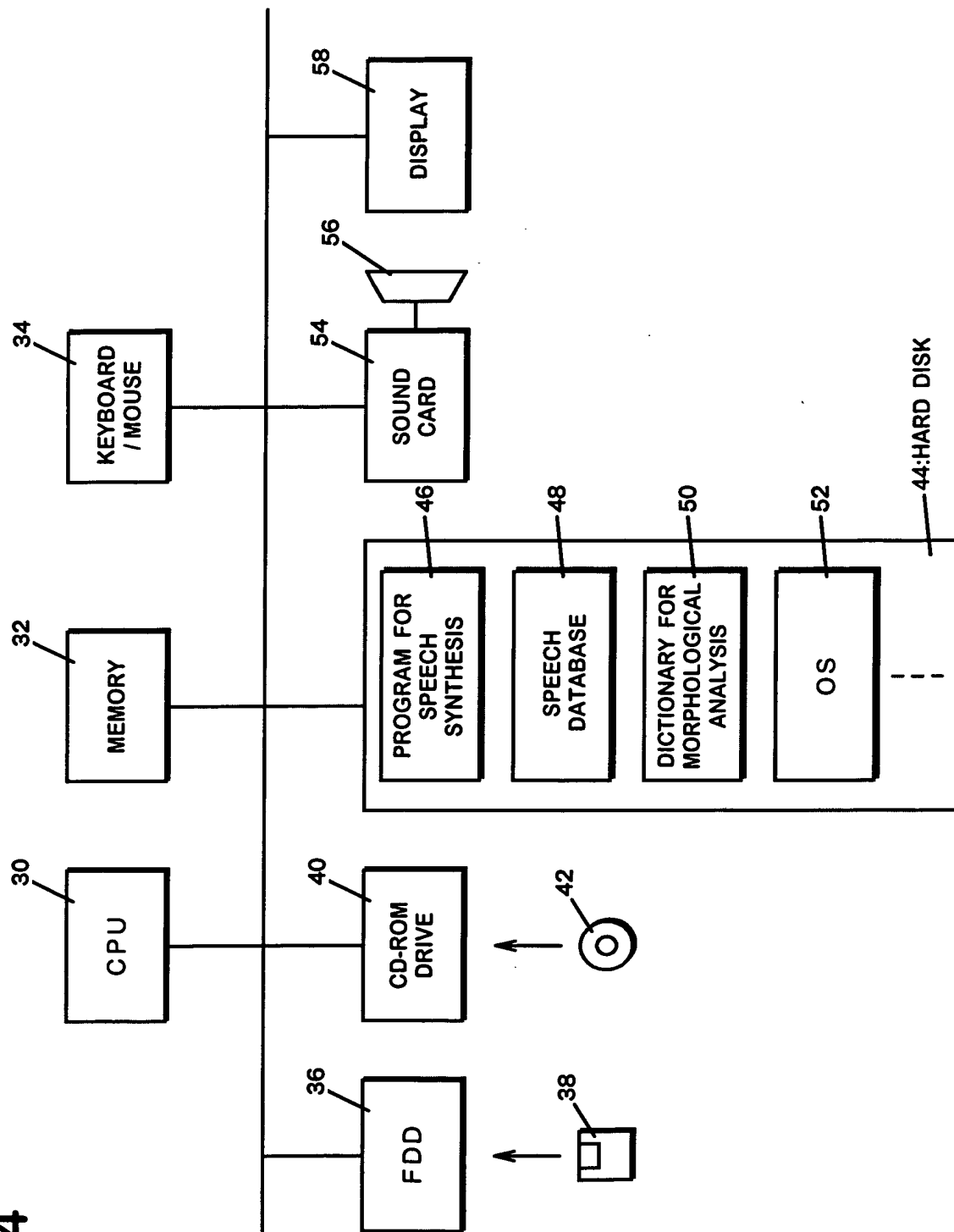
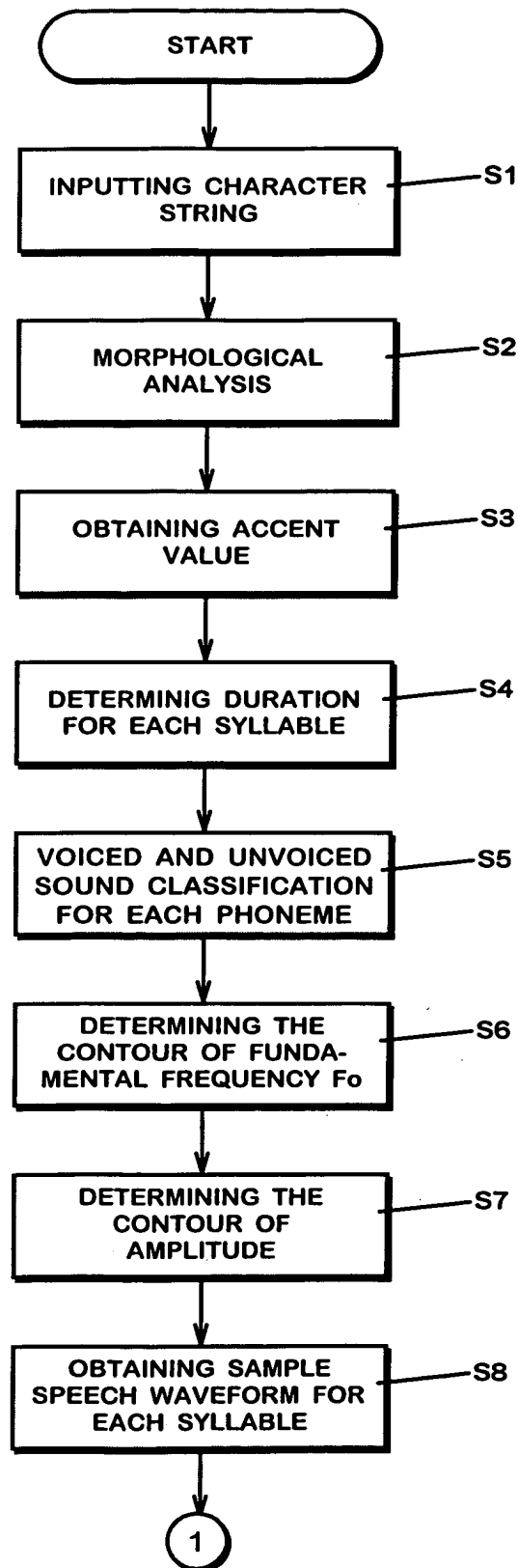


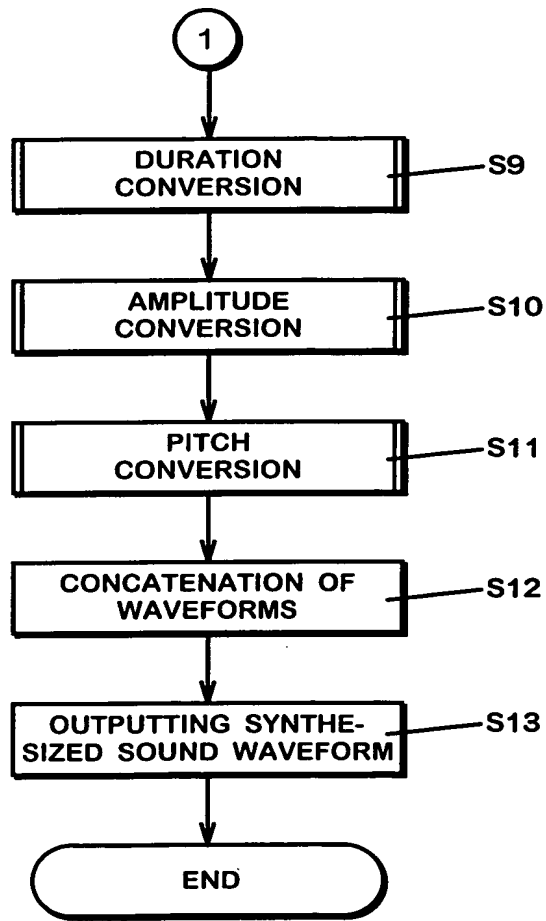
FIG.5

SPEECH SYNTHESIS PROGRAM



0962844-100400

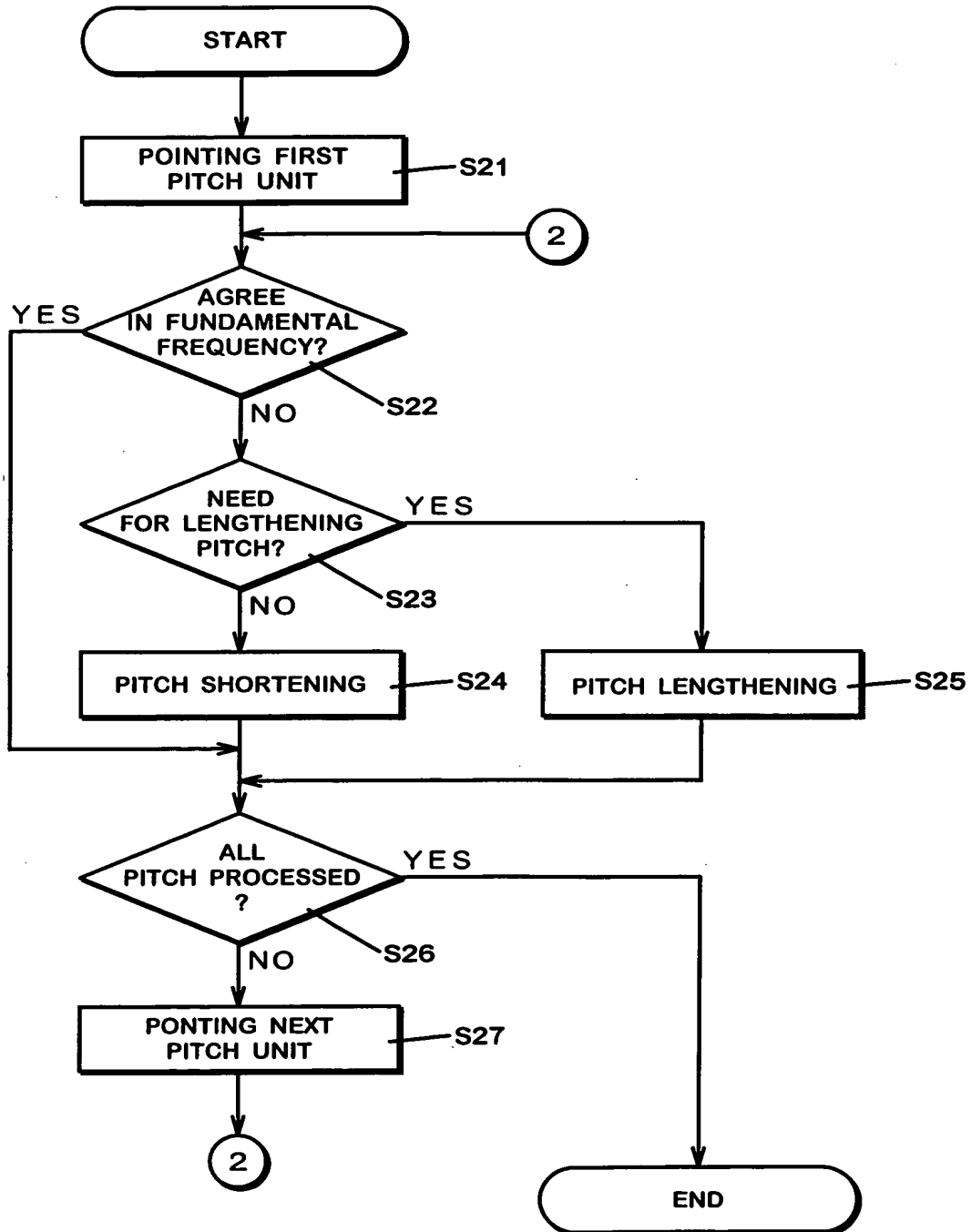
FIG.6



004007" 44582960

FIG.7

PROGRAM FOR PITCH CONVERSION PROCESS



09678544-100400

09-25-76 1000

WORD DICTIONARY

WORD	PART OF SPEECH	READING	----	SYLLABLE	ACCENT VALUE
桜	NOUN	s a k u r a	----	s a	1
				ku	5
				ra	0
さく	VERB	s a k u	----	s a	5
				ku	0
⋮	⋮	⋮		⋮	⋮
が	POST POSITIONAL PARTICAL OF JAPANESE	g a	----	g a	2
⋮	⋮	⋮		⋮	⋮

FIG.9

DICTIONARY OF SYLLABLE DURATION

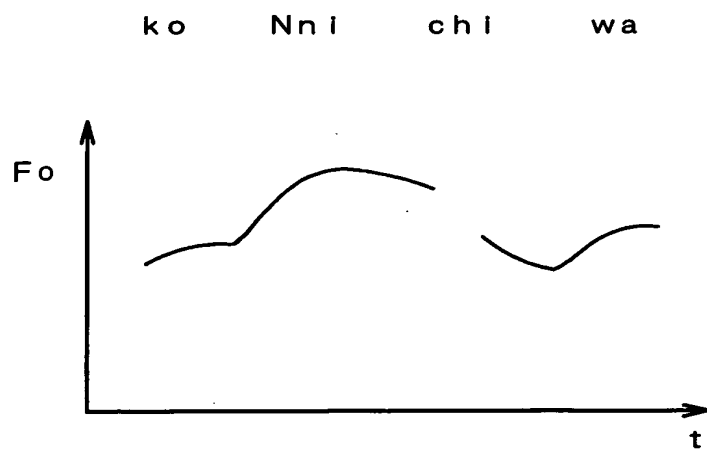
SYLLABLE	DURATION [ms]
a	110
i	114
u	90
!	!
ko	188
!	!

004007-100400

FIG.10

SYLLABLE	CHAIN OF SYLLABLE SEQUENCE	[ms] TIME	[ms] SYLLABLE DURATION	ACCENT VALUE
ko	koN	0	188	0
N	NnI	188	92	5
ni	nich	280	212	5
chi	chlw	492	178	0
wa	wa	670	166	7

FIG.11



09678544-100400

FIG.12

**DICTIONARY OF VOICED / UNVOICED SOUNDS
FOR CONSONANTS / VOWELS**

PHONEME	INDEX
a	V
i	V
ɪ	ɪ
k	CU
ɪ	ɪ
b	CV
ɪ	ɪ

00000T"4534560

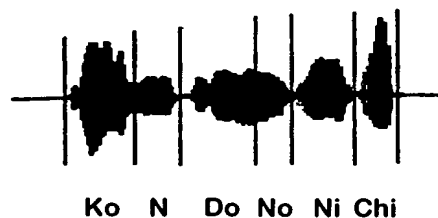
THE UNIVERSITY OF CHICAGO

DICTIONARY OF SOUND SOURCE AMPLITUDE

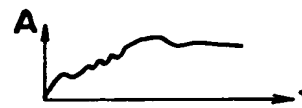
SYLLABLE	SOUND SOURCE AMPLITUDE
a	
⋮	⋮
ko	
⋮	⋮

A_v : VOICED SOUND SOURCE AMPLITUDE
A_f : UNVOICED SOUND SOURCE AMPLITUDE

FIG.14



CONTOUR OF
SOUND SOURCE AMPLITUDE OF /ko/



CONTOUR OF
FUNDAMENTAL FREQUENCY OF /ko/



DURATION OF /ko/

123ms

PITCH MARK

0, 15, 30, ...

ZERO CROSSING MARK

12, 27, 42, ...

004001" 44582960

FIG.15

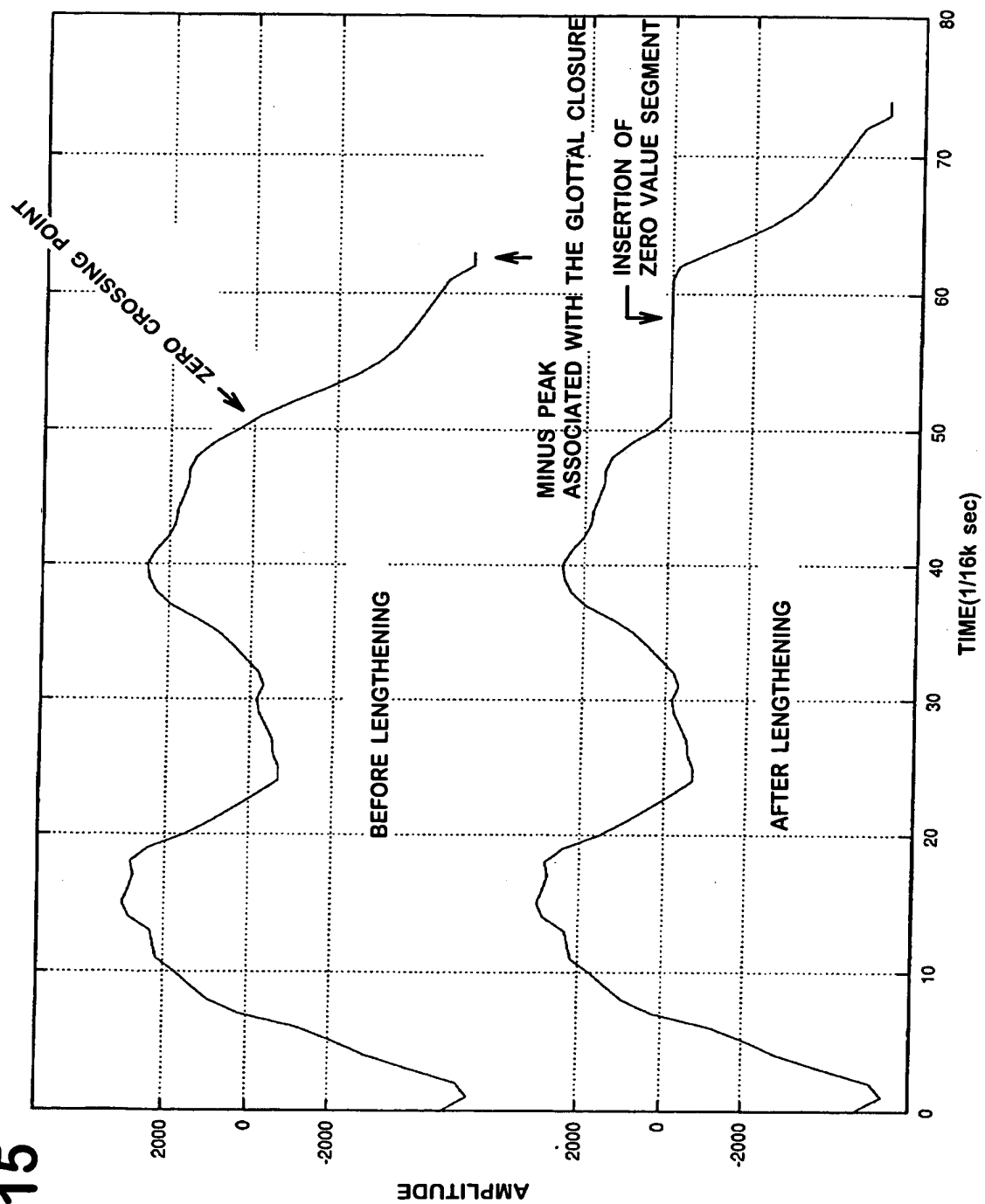


FIG.16

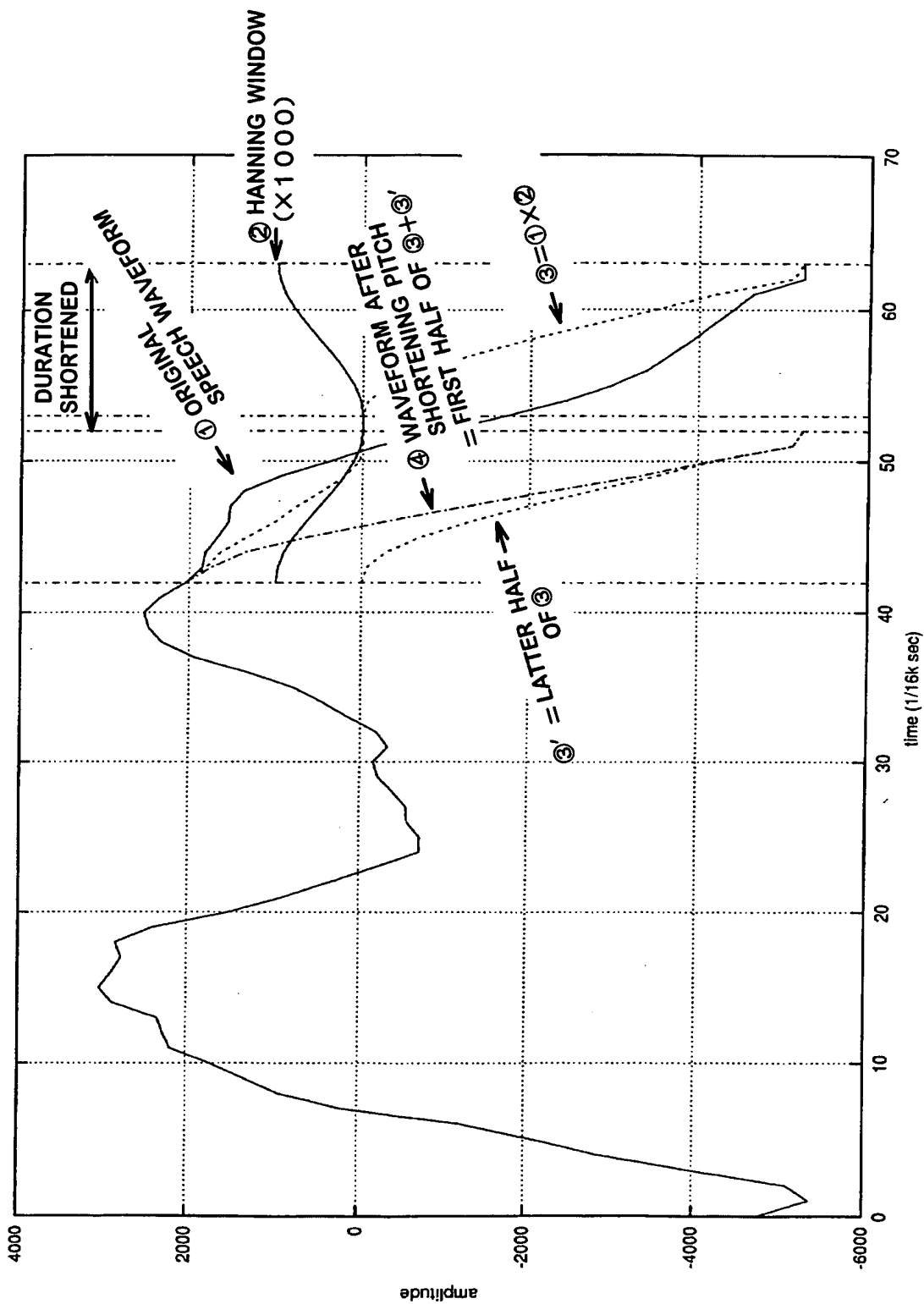


FIG.17

SYLLABLE WEIGHT	TYPE OF SYLLABLE WEIGHT	SYLLABLE STRUCTURE	EXAMPLE
1	LIGHT SYLLABLE	(C) (y) V	ka, sa, ta, na, ha, ma, ya, ra,... a, i, u, e, o, che, pya,....
2	HEAVY SYLLABLE	(C) (y) VR (C) (y) VJ (C) (y) VN (C) (y) VQ	to: , ya:, kyu:, pyu:,... kai, nou, ai, ui, pyua,... kaN, aN, myaN, chaN,... chuQ, ryaQ, jaQ, hyaQ,...
3 OR MORE	SUPER HEAVY SYLLABLE	(C) (y) VRN (C) (y) VRQ (C) (y) VJN (C) (y) VJQ (C) (y) VNQ AND THE LIKE	che:N, ju:N, a:N, ... u:Q, che:Q,... saiN, pauN, auN, chaiN,... kaiQ, daiQ, kyaiQ, uiQ,... doNQ, uNQ, chaNQ,...

C : CONSONANT (EXCLUDING Q, Y AND N)

y : SEMI VOWEL

V : VOWEL (EXCLUDING R AND J)

R : LONG VOWEL

J : THE SECOND ELEMENT OF DIPHTHONG

Q : GEMINATED SOUND (JAPANESE SOKUON)

N : SYLLABIC NASAL

(X) : SYLLABLE WEIGHT IS INDEPENDENT OF X

004001-1052660

FIG.18

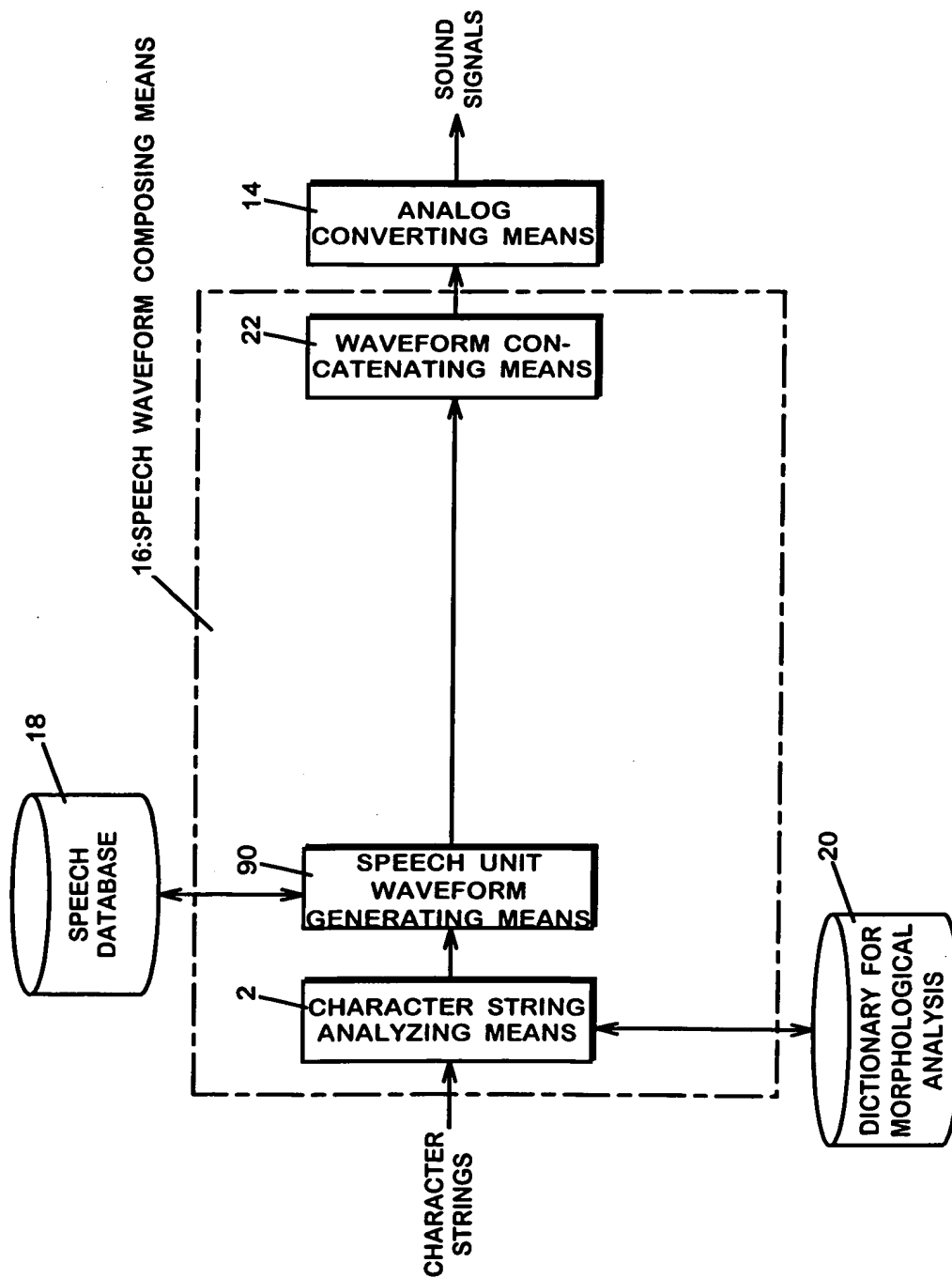
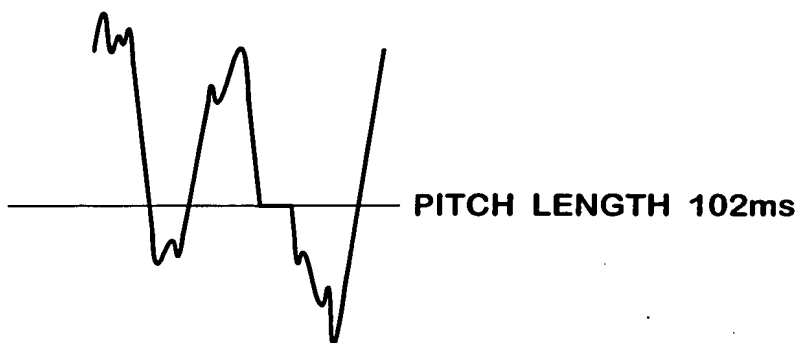
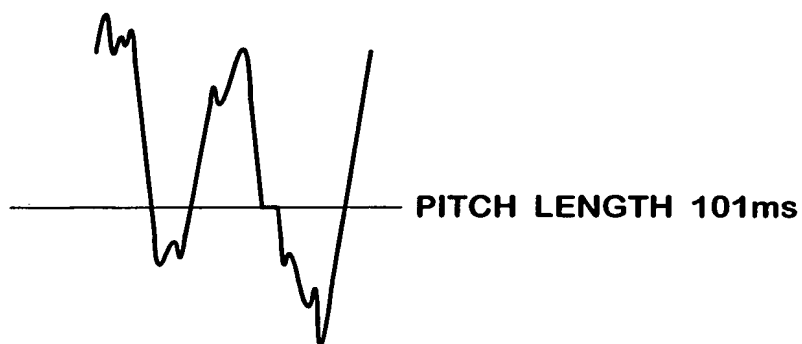
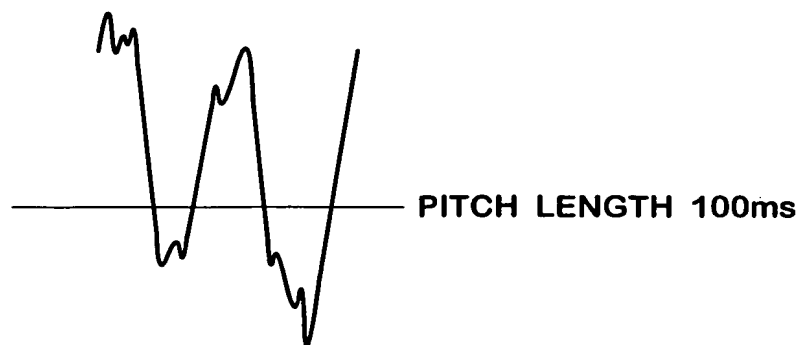


FIG.19



00400T"4458/960

FIG.20

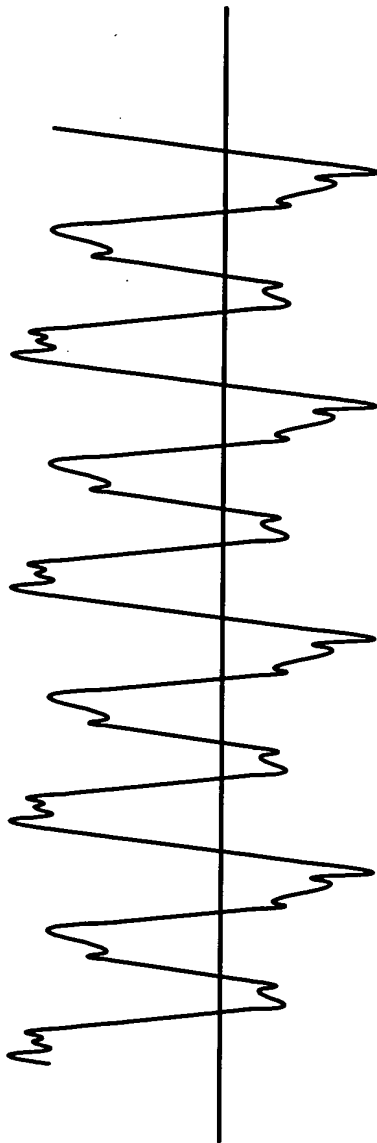
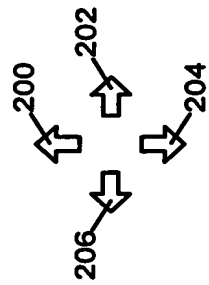
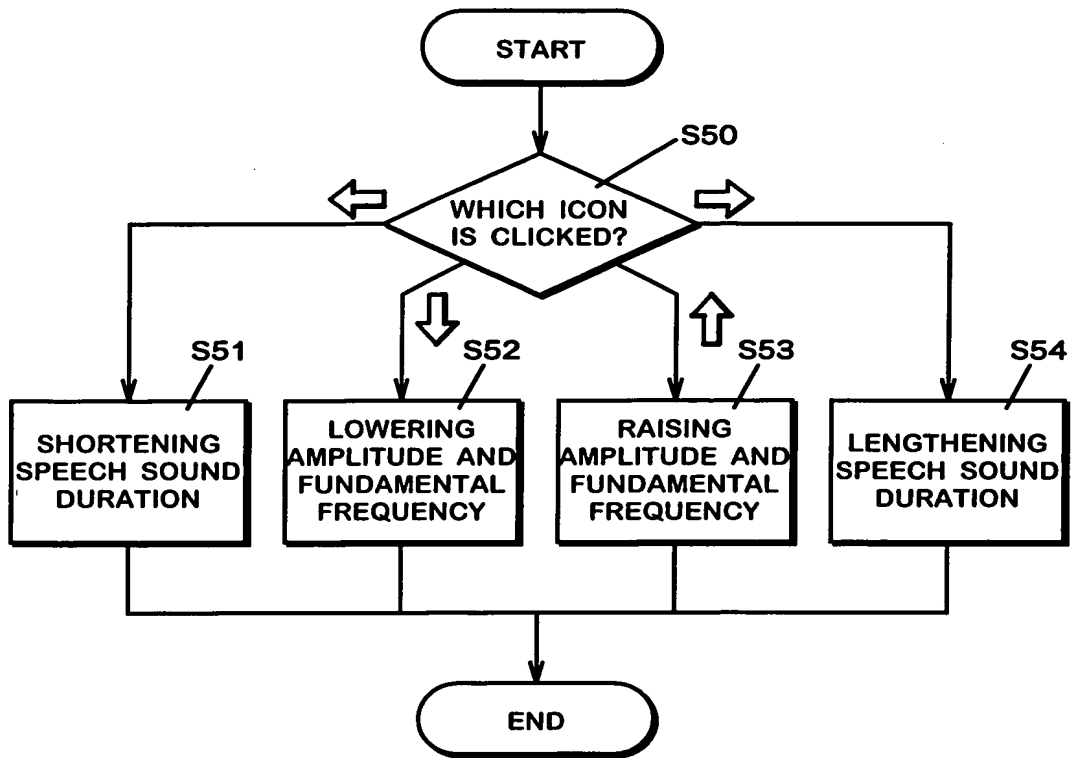
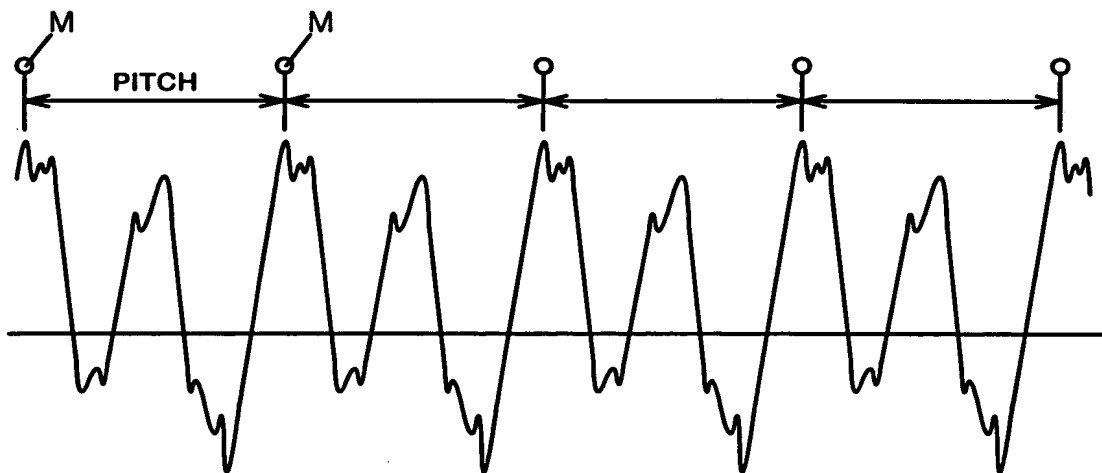


FIG.21



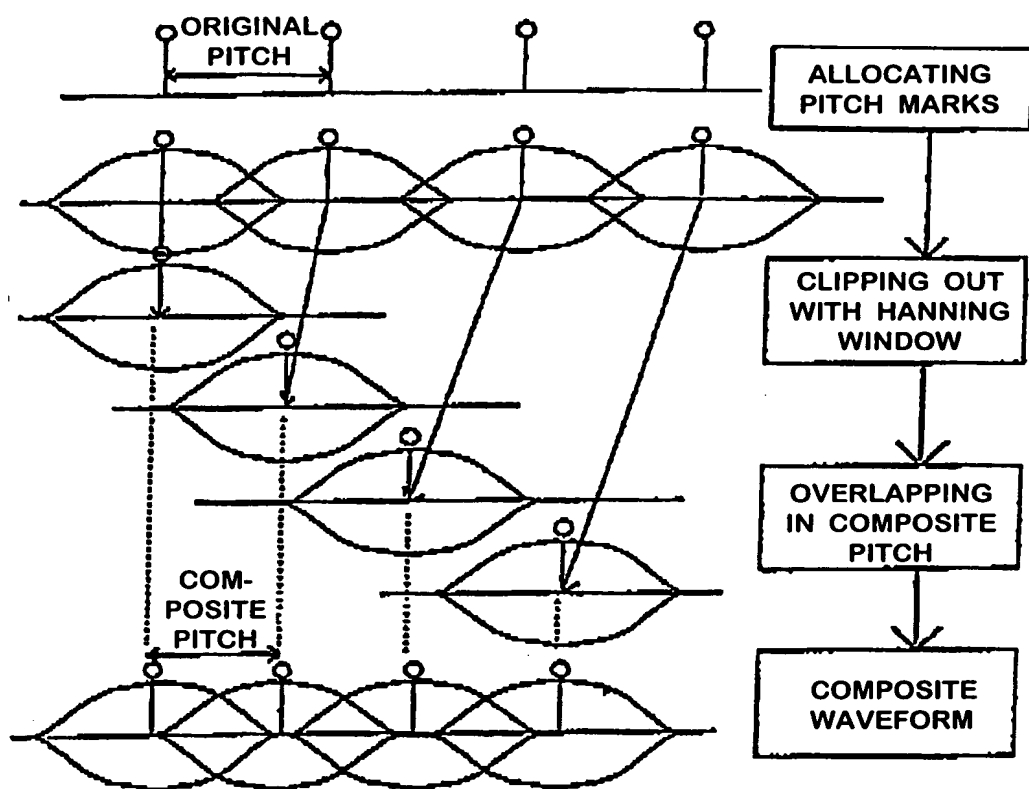
000007" 44582950

FIG.22



004007-14527950

FIG.23



00000T"44522950

FIG.24

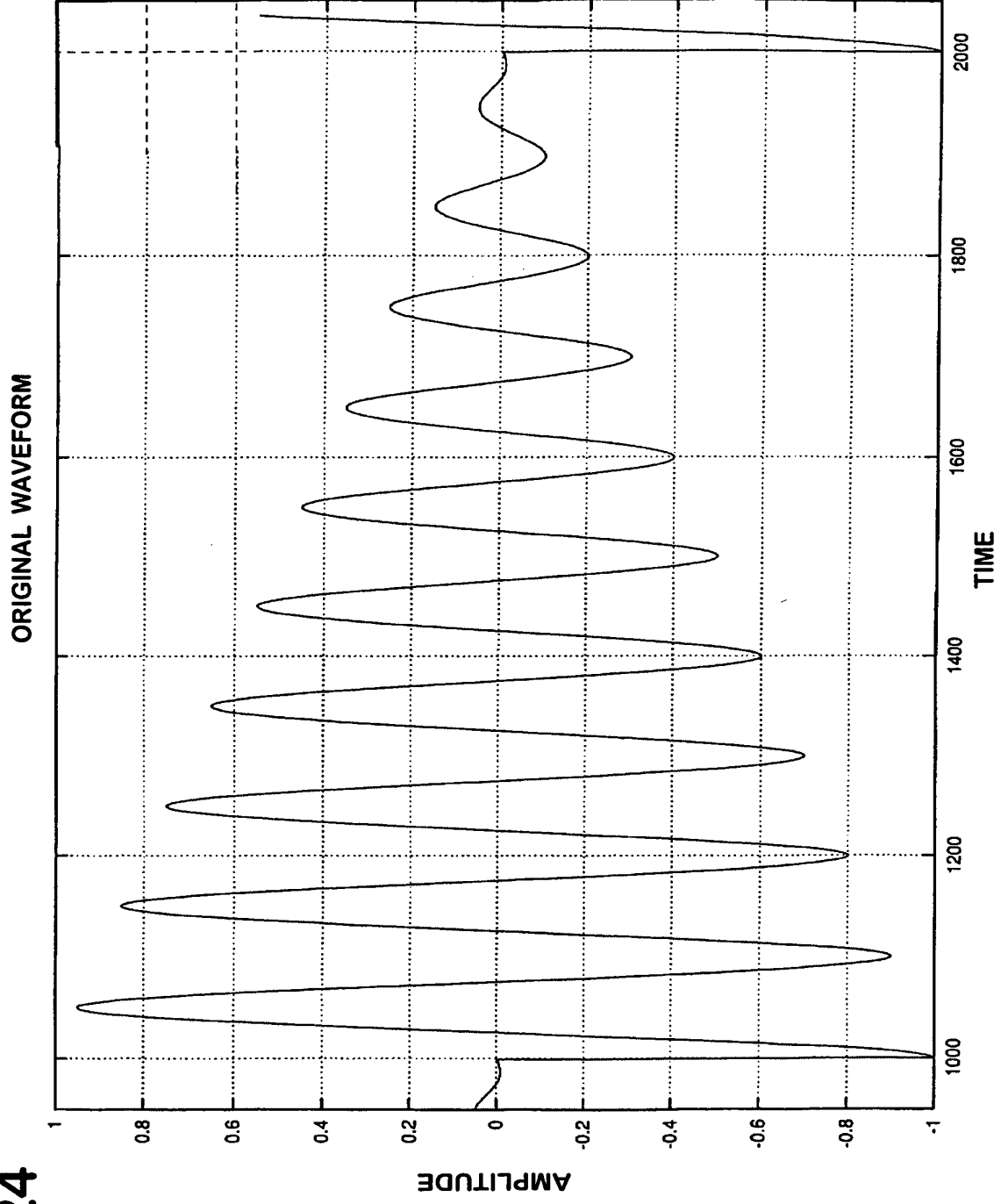


FIG.25

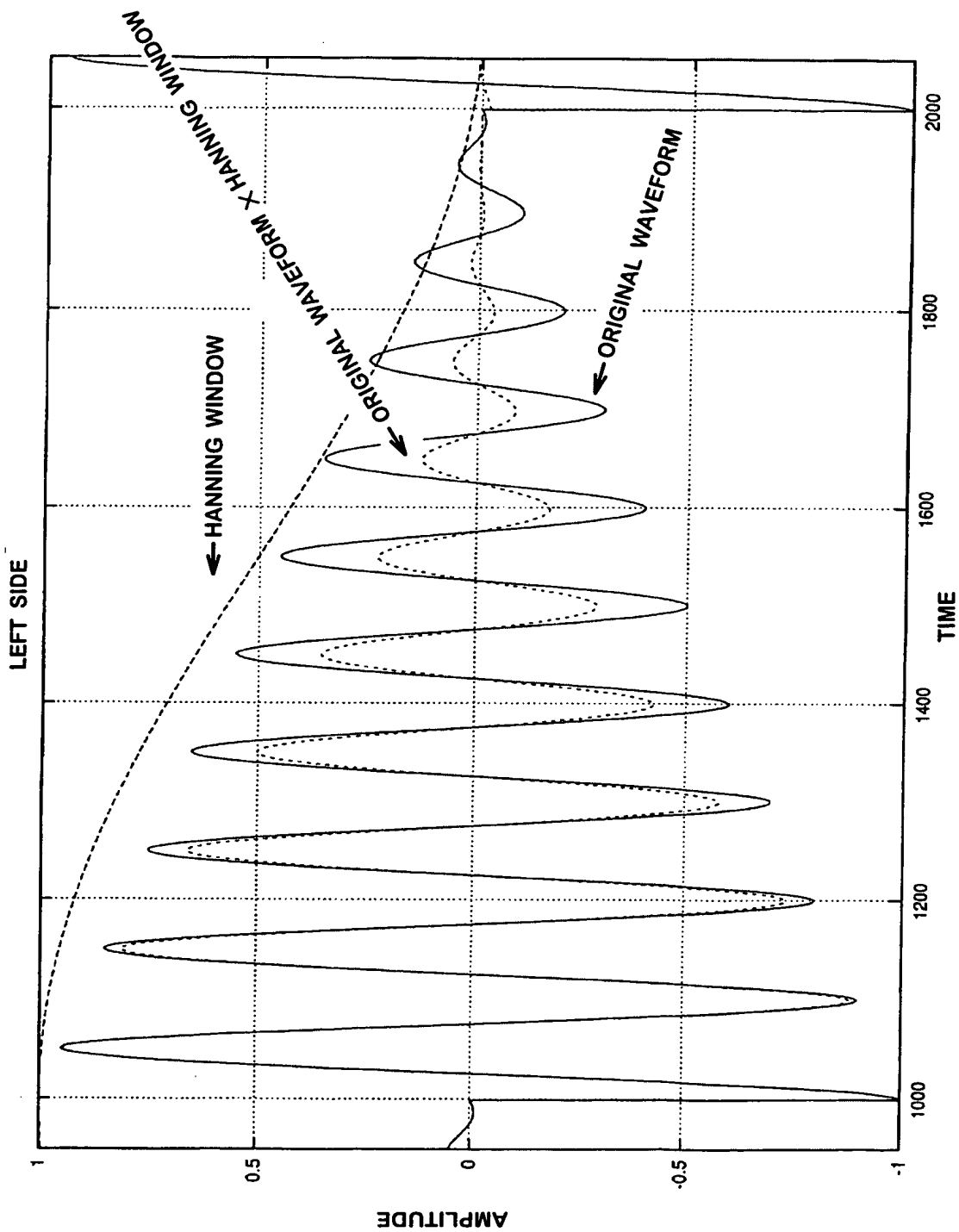


FIG.26

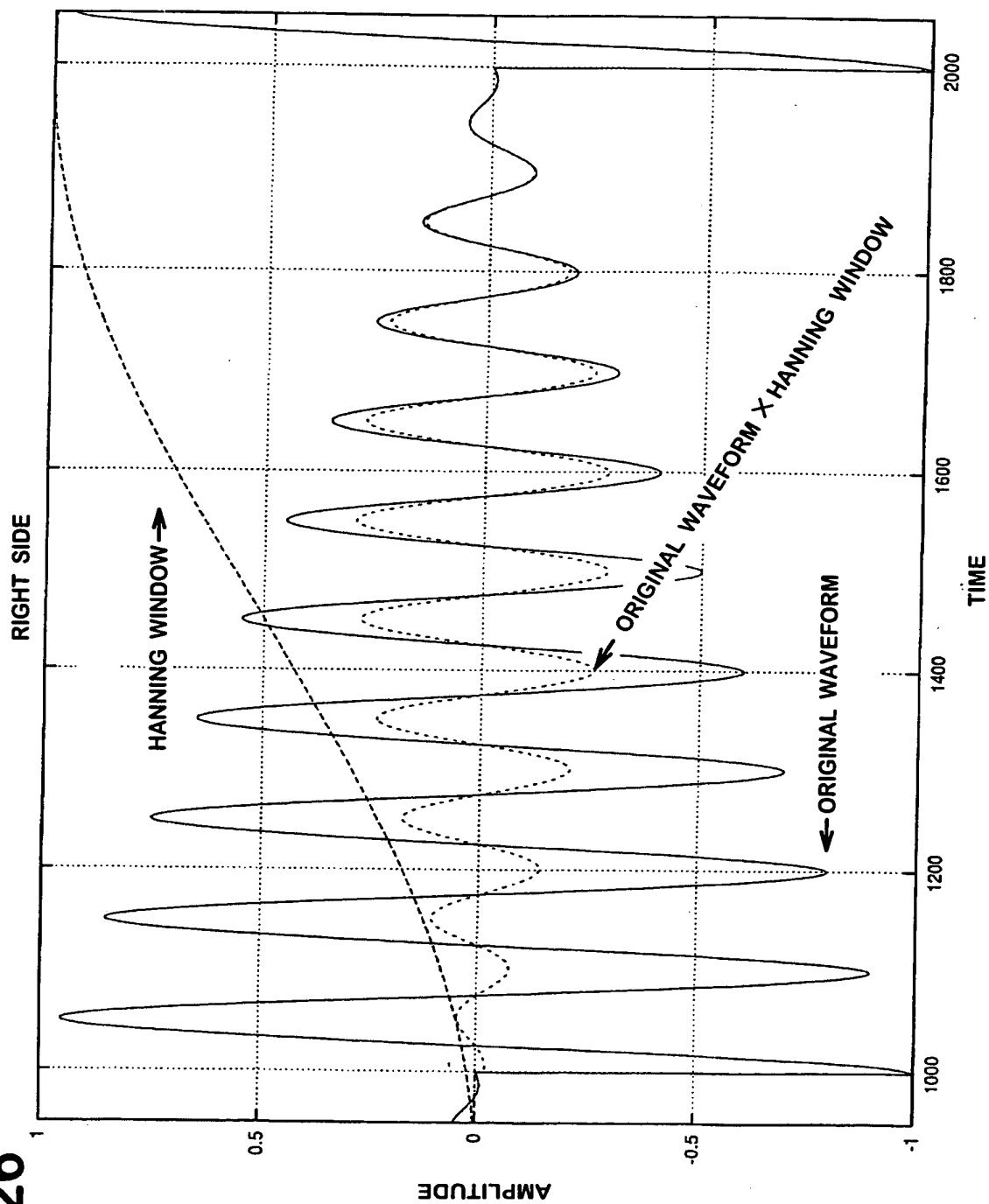


FIG.27

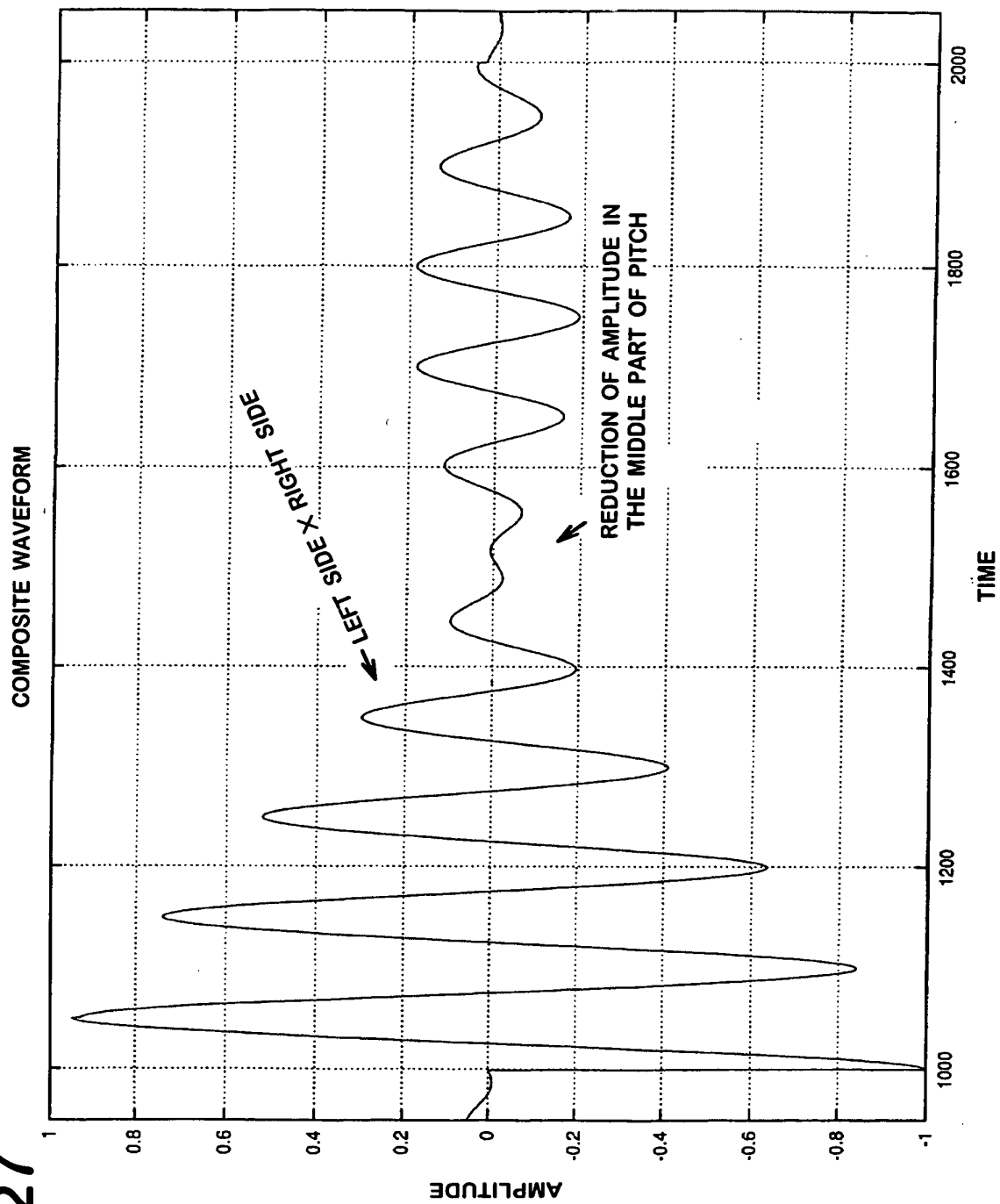
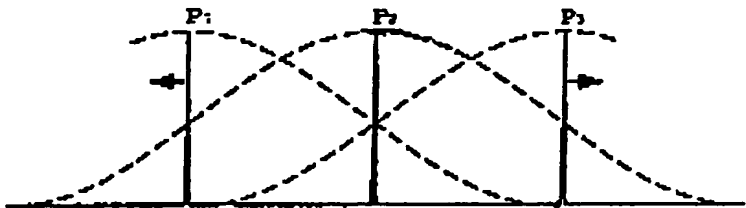


FIG.28

ORIGINAL SIGNALS (SOLID LINE) AND WINDOW FUNCTION (BROKEN LINE)



SIGNALS AFTER CONVERSION OF F_0

